

Expertise in Environmental Monitoring and Post EIA Services

EOH COASTAL & ENVIRONMENTAL SERVICES (CES) specialises in environmental management and impact assessments.

Since our establishment in 1990 we have expanded our advisory services and now offer a wide variety of services in a range of sectors and industries. These services include post-environmental and social monitoring and auditing. The development and implementation of comprehensive and robust environmental and social (E&S) monitoring programmes, with regular auditing of performance against relevant standards, is essential for ensuring that mitigation measures are effective, and that environmental impacts are reduced. It also assists in identifying deviations from the required standards of E&S performances as defined in the monitoring programme.

The implementation and interpretation of E&S monitoring and auditing requires a sound understanding of applicable policies, guidelines and standards. A critical understanding of the affected biophysical and social systems, as well as the correct interpretation of monitoring data is essential. In addition to the above, auditing often requires an ability to understand the technical details of a broad range of industrial operations, and the use of environmental management system (EMS) tools.

We have in-house experience in complex biophysical and social systems to develop and implement environmental and social monitoring programmes.

EOH CES has an enviable record of developing and implementing environmental procedures; as well as designing and auditing management systems, including to ISO 14001 standards. We have a demonstrated ability to develop and implement Integrated Environmental Management Programs (IEMP) with customised standard operating procedures for large and complex projects.

Many of our environmental monitoring programmes have been rigorously reviewed by parties such as the World Bank, Multilateral Investment Guarantee Agency, European Investment Bank, IFC and the African Development Bank, who have confirmed our reputation for producing quality products.

The Environmental Control Officer (ECO) services we offer ensure that the holder of an environmental licence is not penalised for non-compliance by a subcontractor.

Compliance with the conditions of approval, stipulated in an environmental authorisation, is rapidly becoming a critical component of project development. During the construction phase it is important that the holder of the environmental licence (the developer) ensures that all parties, and most especially contractors, comply with all requirements. As the ultimate liability rests with the developer, we offer Environmental Control Officer (ECO) services to ensure that all parties are compliant with the authorisation, and that the licence holder is not penalised for non-compliance by a subcontractor. These services are offered on a part time basis, where site audits might be required on a monthly basis, to full-time deployment of an ECO for larger projects.

EOH CES staff are all exceptionally well qualified, with many being recognised experts in their particular discipline. Several

of our staff hold PhD degrees and most have post-graduate qualifications in the environmental sciences with both national and international certifications.

For more information see www.cesnet.co.za

Environmental Monitoring

- **Environmental monitoring laboratory setup:** EOH CES contributed to the establishment of the environmental monitoring laboratories for Kenmare Resources Moma Mine in Mozambique and Addax Bioenergy's Bioethanol operation in Sierra Leone. This included training personnel in effluent and water monitoring (sampling, analysis and interpretation of results) and other components of monitoring.
- **Environmental Monitoring Programme review:** We were appointed by Kenmare Resources to undertake a comprehensive review of their environmental monitoring programme. This included interpreting weekly water and effluent monitoring data against the requirements of the World Bank, African Development Bank and Mozambican legislation, to ensure compliance.
- **Monitoring programmes and comprehensive key performance indicators development:** Based on our review work, Kenmare Resources appointed us to further develop their monitoring programmes and to establish a comprehensive set of measurable key performance indicators for monitoring mine rehabilitation and the management of alien species at the Moma Heavy Minerals Mine.
- **Independent environmental auditing:** Appointed by Kenmare Resources as independent environmental auditor to assess the impacts of the accidental berm breach and subsequent release of clay-rich water at the Moma Heavy Mineral Mine in Mozambique.
- **Rehabilitation monitoring:** Development of the rehabilitation monitoring plan and associated key performance indicators for the closure of the Roodepan Diamond Mine (North West Province, South Africa).
- **Integrated Environmental Management Program:** In order to promote the sustainable use of the natural resources and ensure a healthier and safer environment within the Buffalo City Municipal area, EOH CES developed a metropolitan wide Integrated Environmental Management Program. Key objectives were to align the IEMP with relevant legislation

and policies, to assist in the development of a state of the environment report and to ensure appropriate community involvement and stakeholder participation.

- **Baseline monitoring programme:** Corridor Sands Limitada appointed EOH CES to undertake a comprehensive baseline monitoring programme over a four year period. The programme was designed and implemented to gather social and environmental information prior to the construction of the mine and related infrastructure, and covered a wide range of environmental and social parameters. Quarterly reports were required and the final report submitted at the end of the monitoring programme summarised four years of monitoring data.
- **Water Monitoring Programme:** The East London Industrial Development Zone appointed EOH CES to implement their water monitoring programme as lead consultants. The project involved the monitoring of surface and groundwater at the East London Industrial Development Zone.
- **Bird and bat monitoring:** EOH CES have the required the equipment and OHS certification to enable us, in partnership with experts from Rhodes University Zoology Department, to undertake preconstruction and post construction bird and bat monitoring for wind energy facilities.

Environmental Control Officer

CES has been appointed as Environmental Control Officer (ECO) for the construction of the following projects in South Africa.

- Calypso Heights Housing Development, for SKG Properties.
- Rehabilitation of the R61 road between All Saints and Baziya, for Jeffares and Green.
- Rehabilitation of the R61 road in the OR Tambo District Municipality for Aurecon.
- Upgrade of the Queenstown WWTW and associated pipelines for Element Consulting Engineers.
- Upgrade of the Ndlambe Municipality waste water treatment works for municipality.
- Renovation of existing terminal building, construction of new buildings, upgrading runway aprons and vehicle parking facilities at East London International Airport for the Airports Company of South Africa.
- Expansion of the capacity of the Mpekweni Beach Resort situated on the Mpekweni Estuary for the owners.
- Sewer and settling/maturation pond in Bathurst, Ndlambe Municipality for Iliso Consulting Engineers.
- Quarterly audits of compliance with the construction EMP during the Phase 2 Expansion Programme for the heavy Mineral Mine, Mozambique, for Kenmare Resources.
- Permanent deployment of ECO's for the following renewable energy projects, on behalf of Enel SA:
 - Nojoli Wind Farm outside Cookhouse, Eastern Cape
 - Gibson Bay Wind Farm outside Humansdorp
 - Paleisheuvel Solar Plant, Piekberg, Western Cape
 - Tom Burke Solar Plant, Western Cape

Environmental Management System & Auditing

- Performance monitoring audits: EOH CES was appointed by Green Resources AS, an Africa wide forestry company, to conduct an E&S performance monitoring audit to provide a

high level, risk based, regular monitoring programme of their ES performance, and to assess compliance with E&S requirements and action plans. Recommendations for improving their E&S performance were also provided.

- Environmental and social performance audits: EOH CES were appointed by Kenmare Resources to audit environmental and social performance against the requirements of the Operational EMP (2010/2011) as well as the IFC Performance Standards (2010/2012). EOH CES was subsequently appointed to develop and implement numerous environmental Standard Operating Procedures (SOP) and monitoring protocols to meet the above-mentioned requirements. These SOPs and protocols were reviewed by independent auditors.
- Environmental management system: EOH CES developed an ISO 14001 EMS for the Chris Hani District Municipality. This system integrated existing management systems into the ISO 14001 EMS framework, provided environmental management awareness training, and identified legal compliance and other obligations that are the responsibility of this district municipality.
- Environmental management system: EOH CES prepared a State of Environment Report for the Ukhahlamba District Municipality. An EMS was then prepared based on the SOE report, and monitoring and management systems were developed to ensure the effective management of all key issues. A training programme to build the environment management capacity was also developed.
- Audits: An audit of boat launch sites was undertaken by EOH CES the Provincial Department of Economic Development, Environmental Affairs and Tourism (DEDAET), to identify all beach and estuarine launch sites within the Eastern Province (South Africa). The audit included an assessment of existing and potential impacts at each sites. Details on each launch sites included reporting on the suitability, condition, level of management and amount of infrastructure and environmental impacts, and recommendations for future use were provided.
- EMS audits: As part of the ISO certification process, EOH CES consultants have participated in numerous EMS audits for large South African corporations including SAPPI, BHP Billiton, SAB Miller, Western Platinum Refinery, Dorbyl Group and others.

Aquaculture

- **2011:** Qolora Aquaculture Zone, a community based aquaculture facility aimed at accommodating a number of production operators and the production of different marine organisms. The aquaculture zone also includes hatcheries, processing facilities and all related infrastructure.
- **2016:** Semicept Abalone Aquaculture farm outside Oyster Bay, Eastern Cape.

EOH Coastal & Environmental Services

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